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SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

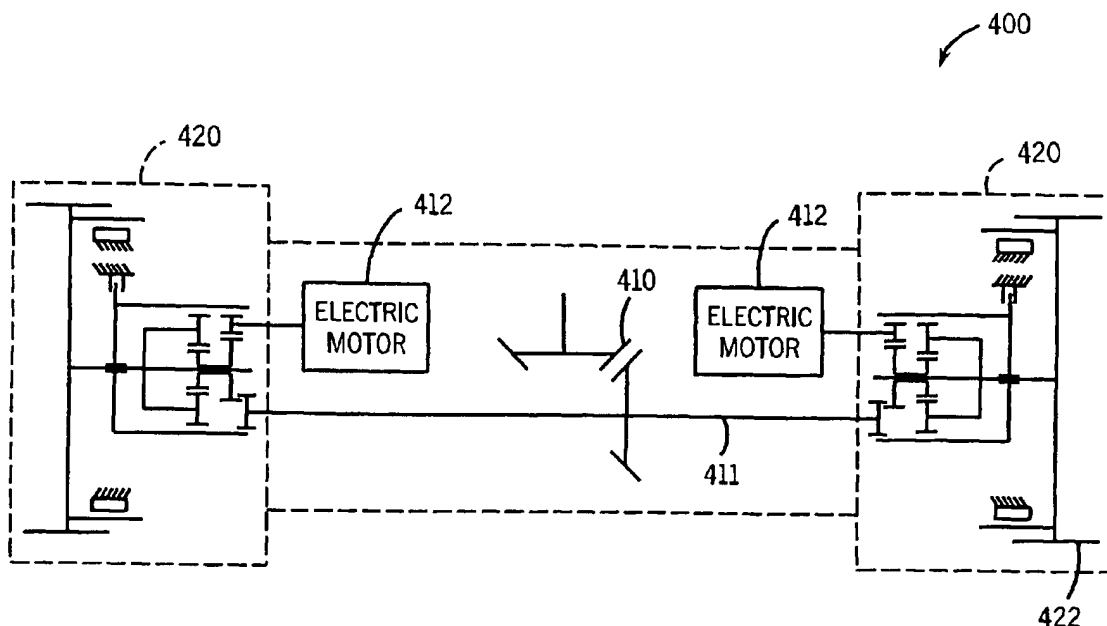
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[Continued on next page]

(54) Title: HYBRID VEHICLE WITH COMBUSTION ENGINE/ELECTRIC MOTOR DRIVE



(57) Abstract: A vehicle including a prime mover, a generator mechanically coupled to the prime mover, a first multi-input drive unit (420) having first and second rotational inputs and at least one rotational output wherein the first rotational input (411) is coupled to the prime mover, a first electric motor (412) mechanically coupled to the second rotational input and electrically coupled to the generator and a vehicle drive wheel (422) coupled to the rotational output. A central tire inflation system regulates tire pressure based upon the hybrid drive control signal.



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/13177

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B60K6/04 B60C23/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B60K B60C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 812 720 A (DEERE) 17 December 1997 (1997-12-17) column 3, line 55 - column 4, line 3	1-10
A	column 6, line 53 - line 55 claims 1,14; figures 1,2 ---	61,62,64
Y	EP 0 504 913 A (KLÖCKNER-HUMBOLDT-DEUTZ) 23 September 1992 (1992-09-23) column 2, line 33 - line 55 ---	1-10
A	WO 00 69662 A (STEYR DAIMLER PUCH SPEZIALFAHRZEUG) 23 November 2000 (2000-11-23) ---	
X	US 5 558 595 A (SCHMIDT ET AL.) 24 September 1996 (1996-09-24) abstract; figure 2 --- -/-	61

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 197 49 074 A (SCHMETZ) 20 May 1999 (1999-05-20) the whole document ---	61
A	GB 1 308 318 A (PERKINS ENGINES) 28 February 1973 (1973-02-28) figure 1 ---	61-63
A	EP 0 805 059 A (GENERAL MOTORS) 5 November 1997 (1997-11-05) abstract; figure ---	61,68
A	GB 2 302 850 A (STILL) 5 February 1997 (1997-02-05) ---	
A	FR 2 658 259 A (LEBOIME) 16 August 1991 (1991-08-16) ---	
A	DE 18 16 183 A (LINDE) 25 June 1970 (1970-06-25) ---	
A	US 2002/045507 A1 (BOWEN) 18 April 2002 (2002-04-18) -----	

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/13177

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
  
1-10, 61-78
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10

A hybrid vehicle with a central tire inflation system

2. Claims: 11-20,55-60

A hybrid vehicle with one motor and two generators

3. Claims: 21-32

A hybrid vehicle with an ancillary equipment

4. Claims: 33-40

A hybrid vehicle with a motor and summing gearset internal to a wheel

5. Claims: 41-47

A hybrid vehicle with a motor external to the wheel and a summing gearset internal to the wheel

6. Claims: 48-54

A hybrid vehicle with a motor and a summing gearset both external to the wheel and a power storage system

7. Claims: 61-78

A hybrid vehicle with a motor driving one axle

8. Claims: 79-93

A hybrid vehicle with a generator and three motors

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/13177

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